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	Mean Correction.	Discordance from Mean.	R.A. at 10 hrs.		Mean Correction.	Discordance from Mean.	R.A. at 10 hrs.
	″	″	h		″	″	h
I.	−1·11	−0·14	7	III.	−0·62	+0·35	19
II.	−1·18	−0·21	13	IV.	−0·96	+0·01	1

These annual discordances are of similar amount, though of quite dissimilar phase, to those found by Auwers from a comparison of Taylor's Catalogue (the declinations of which depend fundamentally on those of Pond's Catalogue of 1830) with the Fundamental Catalogue of the *Astronomische Gesellschaft.* The following table is deduced from his results (*Ast. Nach.* 3195):—

R.A.	Correction to Taylor.	R.A.	Correction to Taylor.
h	″	h	″
7	+0·04	19	+0·02
13	+0·23	1	−0·32

In view of the discordances here exhibited, both of a constant and periodic nature, it appears preferable to form the adopted index errors from a comparison of the corrected circle readings with the declinations of the Standard Catalogue rather than to attempt the formation of independent declinations which would involve so many elements of uncertainty. The former is consequently the course that has been adopted.

"Nautical Almanac" Office:
1897 *March* 8.

Cloud Statistics for Stations in India near the Path of the Moon's Shadow on 1898 *January* 21–22. By A. M. W. Downing, M.A., D.Sc., F.R.S.

Thanks to the kindness of Mr. J. Eliot, F.R.S., Meteorological Reporter to the Government of India, the cloud observations which are embodied in this paper were made at various points near the track of the total eclipse of next January, so as to be a guide to intending observers in the choice of stations.

My request for these observations for the latter part of 1894 January did not reach Mr. Eliot sufficiently early to enable him to make as complete returns for that year as he has done for the corresponding periods of 1895, 1896, and 1897. With the very complete organisation at his command, Mr. Eliot has been able (an opportunity of which he has not been slow to avail himself) to render a signal service to the science of astronomy.

The observations communicated to me consist of the hourly observation of the amount of cloud at each hour of the interval specified at the head of each yearly column in the following

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tables. As it did not appear that any hourly variation in the amount of cloud could be detected in the observations, the mean of each hourly amount for the day has been taken to represent the daily amount referring in the mean to the approximate time of totality, or 1^h local mean time.

The columns in the tables under each year give, therefore, the mean daily amount of cloud at the station as thus determined for each day of the period over which the observations extend. The scale adopted is 0—10, where 0 represents a perfectly clear sky, and 10 a perfectly clouded one.

The mean daily amount of cloud for each station is also given.

These mean daily amounts of cloud are represented graphically in the diagram at the end of the paper, where the stations are arranged in order of longitude. The diagram shows clearly the increase in cloudiness as we proceed further towards the east. In fact, from the west coast to 76° E. the average amount of cloud is represented by 1 on the adopted scale; whilst from 78° E. to 85° E. the average amount of cloud is represented by 2. At Darjeeling (the most easterly place of observation) the increase is so great (7·7) that it cannot conveniently be represented on the diagram.

Those who wish for a clear sky would do well, therefore, to locate themselves to the west of the range of hills running from Ahmednagar to Hyderabad. The remarkable general absence of cloud during the latter part of 1896 January is noteworthy.

The detailed observations received from India have been handed over to the custody of the Joint Permanent Eclipse Committee, so as to be available for reference.

Ratnagiri.

East long. 73° 19′; North lat. 17° 0′.

	1895. 10^h—4^h.	1896. 10^h—4^h.	1897. 11^h—3^h.		1895. 10^h—4^h.	1896. 10^h—4^h.	1897. 11^h—3^h.
Jan. 12	...	1	0	Jan. 22	0	1	0
13	...	0	0	23	0	0	0
14	...	0	2	24	1	0	0
15	...	0	0	25	2	0	0
16	...	5	0	26	...	1	4
17	0	0	0	27	...	3	6
18	0	2	5	28	...	2	8
19	0	1	0	29	...	0	8
20	0	0	1	30	...	0	0
21	0	0	0	31	...	0	0

Mean daily amount of cloud 1·1.

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Vengurla.

East long. 73° 39′; North lat. 15° 52′.

	1894. $11^{h}-1^{h}$.		1894. $11^{h}-1^{h}$.		1894. $11^{h}-1^{h}$.		1894. $11^{h}-1^{h}$.
Jan. 22	1	Jan. 25	1	Jan. 28	6	Jan. 31	0
23	1	26	0	29	1		
24	3	27	0	30	0		

Mean daily amount of cloud 1·3.

Marmagao.

East long. 73° 48′; North lat. 15° 24′.

	1895. $10^{h}-4^{h}$.		1895. $10^{h}-4^{h}$.		1895. $10^{h}-4^{h}$.		1895. $10^{h}-4^{h}$.
Jan. 22	0	Jan. 24	0	Jan. 26	1	Jan. 28	1
23	0	25	0	27	1		

Mean daily amount of cloud 0·4

Satara.

East long. 74° 1′; North lat. 17° 41′.

	1896. $10^{h}-4^{h}$.	1897. $11^{h}-3^{h}$.		1896. $10^{h}-4^{h}$.	1897. $11^{h}-3^{h}$.
Jan. 12	0	1	Jan. 22	0	2
13	0	0	23	0	2
14	0	3	24	0	2
15	1	3	25	0	2
16	2	0	26	0	2
17	0	0	27	0	7
18	0	2	28	0	8
19	1	1	29	0	8
20	0	4	30	0	0
21	0	2	31	0	0

Mean daily amount of cloud 1·3.

Belgaum.

East long. 74° 31′; North lat. 15° 50′.

	1894. $11^{h}-1^{h}$.		1894. $11^{h}-1^{h}$.		1894. $11^{h}-1^{h}$.		1894. $11^{h}-1^{h}$.
Jan. 21	0	Jan. 24	6	Jan. 27	0	Jan. 30	0
22	0	25	0	28	6	31	0
23	1	26	0	29	0		

Mean daily amount of cloud 1·2.

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Sholapur.

East long. 75° 54′; North lat. 17° 39′.

	1895. 10^h–4^h.	1896. 10^h–4^h.	1897. 11^h–3^h.		1895. 10^h–4^h.	1896. 10^h–4^h.	1897. 11^h–3^h.
Jan. 12	...	0	0	Jan. 22	0	0	3
13	...	0	0	23	0	0	0
14	...	0	0	24	...	1	0
15	...	0	1	25	...	0	0
16	...	5	0	26	...	0	4
17	0	0	0	27	...	0	3
18	0	0	0	28	...	0	8
19	0	0	2	29	...	0	8
20	1	0	1	30	...	0	0
21	0	0	2	31	...	0	0

Mean daily amount of cloud 0·8.

Wardha.

East long. 78° 36′; North lat. 20° 44′.

	1897. 11^h–3^h.		1897. 11^h–3^h.		1897. 11^h–3^h.		1897. 11^h–3^h.
Jan. 12	2	Jan. 17	0	Jan. 22	1	Jan. 27	3
13	0	18	2	23	3	28	8
14	0	19	5	24	1	29	7
15	1	20	4	25	4	30	0
6	0	21	3	26	8	31	0

Mean daily amount of cloud 2·6.

Nagpur.

East long. 79° 5′; North lat. 21° 8′.

	1894. 11^h–1^h.	1895. 10^h–4^h.	1896. 10^h–4^h.	1897. 10^h–4^h.		1894. 11^h–1^h.	1895. 10^h–4^h.	1896. 10^h–4^h.	1897. 10^h–4^h.
Jan. 12	...	...	0	3	Jan. 22	1	6	0	7
13	...	...	0	1	23	4	0	1	5
14	...	...	0	0	24	0	1	1	3
15	...	...	0	3	25	1	3	0	3
16	...	...	1	0	26	0	5	0	7
17	...	...	0	0	27	0	...	1	7
18	...	...	0	4	28	2	...	1	7
19	...	3	1	7	29	0	...	2	7
20	...	3	0	5	30	3	...	0	0
21	...	5	0	6	31	0	...	0	0

Mean daily amount of cloud 2·0.

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Jubbulpur.

East long. 79° 58′; North lat. 23° 9′.

	1895.	1896.	1897.		1895.	1896.	1897.
	10^h-4^h.	10^h-4^h.	11^h-3^h.		10^h-4^h.	10^h-4^h.	11^h-3^h.
Jan. 12	...	0	1	Jan. 22	4	0	5
13	...	0	0	23	...	0	8
14	...	0	0	24	...	0	7
15	...	0	4	25	...	0	1
16	7	1	0	26	...	0	3
17	1	0	0	27	...	0	9
18	0	0	3	28	...	1	2
19	2	0	9	29	...	0	5
20	2	0	4	30	...	1	0
21	5	2	9	31	...	0	2

Mean daily amount of cloud 2·1.

Benares.

East long. 83° 0′; North lat. 25° 20′.

	1895.	1896.	1897.		1895.	1896.	1897.
	10^h-4^h.	10^h-4^h.	11^h-3^h.		10^h-4^h.	10^h-4^h.	11^h-3^h.
Jan. 12	...	0	1	Jan. 22	6	0	5
13	...	0	0	23	...	0	10
14	...	0	4	24	...	0	6
15	...	0	5	25	...	0	3
16	5	1	0	26	...	0	4
17	3	0	0	27	...	0	7
18	0	0	4	28	...	1	0
19	3	0	10	29	...	0	0
20	2	1	3	30	...	0	0
21	0	7	8	31	...	0	0

Mean daily amount of cloud 2·1.

Gorakpur.

East long. 83° 23′; North lat. 26° 44′.

	1895.		1895.		1895.		1895.
	10^h-4^h.		10^h-4^h		10^h-4^h.		10^h-4^h.
Jan. 17	4	Jan. 19	3	Jan. 21	2	Jan. 23	8
18	0	20	1	22	8		

Mean daily amount of cloud 3·7.

Patna.

East long. 85° 11′; North lat. 25° 33′.

	1894.	1896.	1897.		1894.	1896.	1897.
	11^h-1^h.	10^h-4^h.	11^h-3^h.		11^h-1^h.	10^h-4^h.	11^h-3^h.
Jan. 12	...	0	0	Jan. 22	8	0	9
13	...	0	0	23	7	0	5
14	...	0	0	24	2	1	5
15	...	0	1	25	1	0	5
16	...	0	0	26	0	0	5
17	...	0	0	27	0	0	9
18	...	0	1	28	0	9	0
19	...	3	10	29	0	3	0
20	...	0	2	30	0	0	0
21	...	3	8	31	0	0	0

Mean daily amount of cloud 2·0.

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Hazaribagh.

East long. 85° 20′; North lat. 23° 59′.

	1894. 11^h-1^h.		1894. 11^h-1^h.		1894. 11^h-1^h.		1894. 11^b-1^h.
Jan. 22	9	Jan. 25	0	Jan. 28	0	Jan. 31	0
23	10	26	0	29	0		
24	0	27	0	30	0		

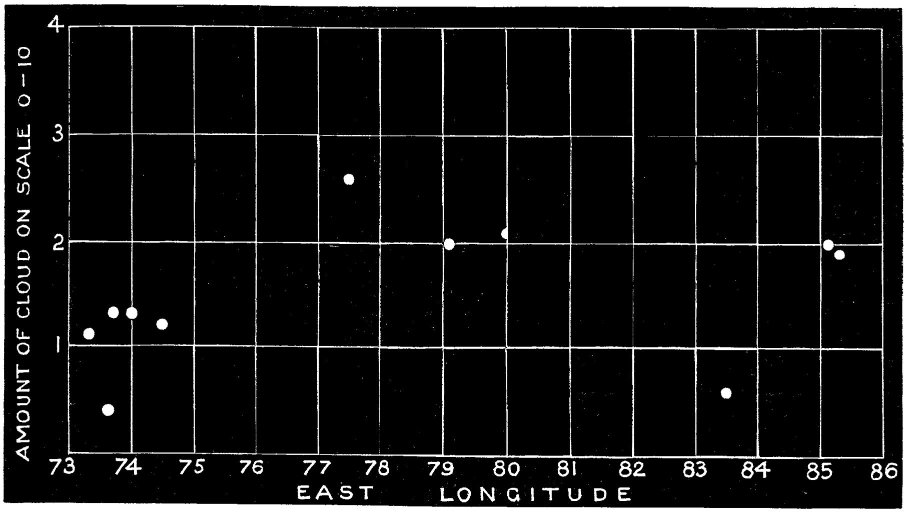
Mean daily amount of cloud 1·9.

Darjeeling.

East long. 88° 18′; North lat. 27° 3′.

	1894. 11^h-1^h.		1894. 11^h-1^h.		1894. 11^h-1^h.		1894. 11^h-1^h.
Jan. 22	5	Jan. 25	3	Jan. 28	9	Jan. 31	10
23	6	26	10	29	10		
24	4	27	10	30	10		

Mean daily amount of cloud 7·7.



Mean amount of cloud in day-time during the latter part of January at stations in India near the path of the moon's shadow on 1898 Jan. 21–22.

Observations taken at Vadsö during the total Eclipse of the Sun, 1896 *August* 9. By Passengers of the S.S. *Neptun* (Norwegian).

(*Drawn up and Communicated by T. C. Porter, Eton College.*)

A. *Direction and Force of Wind.* By E. E. Wilde.

The position taken up was near the edge of the southern cliffs of the island opposite Vadsö, and was about 200 yards E.N.E. of the British Astronomical Association's station; the arrangements, four long pieces of wood laid on the ground pointing N., S., E., and W. respectively, set by the compass *uncorrected for magnetic deviation.* For a flag a very thin piece of old cambric was used, fastened to a crooked stick.